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ABSTRACT

Technological developments such as groupware and World Wide Web technology have opened up new opportunities for the delivery of information directly to the end-user's desktop. These advances have meant that suppliers are now producing a new breed of current awareness services (CAS), termed alerting services, which automatically filter newswires and download "profiled" stories to the user's desktop each day. This paper reviews the changes that are occurring in current awareness provision through a consideration of findings from a pilot taking place in KPMG, an international firm of accountants and management consultants serving local and global clients. A review was conducted which consisted of three stages: review questionnaire results to determine how end-users felt about CAS; the selection of individuals and services for the implementation of the pilot; and the distribution of a questionnaire to obtain feedback on the pilot. Results of the pilot study demonstrated that three organizational factors need to be given serious consideration before an alerting service is established: (1) information technology infrastructure harmonization; (2) the likelihood of users incorporating information retrieval into their working practices; and (3) the delivery platform. (Contains 12 references.) (AEF)

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Electronic Current Awareness in the Corporate Environment

By:

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Electronic current awareness in the corporate environment

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Abstract: *Timely and authoritative news on companies and industries is vital in today's competitive business environment. Information departments have traditionally played a role in providing current awareness services (CAS) to deliver the information required. Technological developments such as groupware and Web technology have opened up new opportunities for the delivery of information direct to the end-user's desktop. These advances have meant that suppliers are now producing a new breed of current awareness services, termed alerting services, which automatically filter newswires and download 'profiled' stories to the user's desktop each day. Automated CAS enables a more efficient and effective way of disseminating external information throughout an organisation, leading to a more informed decision making culture. The vast array of services available and the costs of subscribing and operating a system demand a thorough analysis of the system's features and the needs of the user. A pilot study within KPMG identified three key criteria that must be considered: compatibility with the existing IT infrastructure, the delivery platform and the content of the information being filtered.*

Keywords: Current awareness services, automated alerting services, end-users, Lotus Notes, intranet

1. Introduction

This paper reviews the changes that are occurring in current awareness provision through a consideration of the preliminary results and research findings from a current awareness pilot taking place in KPMG. The results collected from this study represented the empirical element of a Master's Dissertation and the research findings have led to a further pilot being established so that the most appropriate method of CAS provision for KPMG's employees can be determined. The paper focuses on the service levels demanded by end-users in order to perform daily tasks effectively and in the final analysis to achieve the goals of the organisation.

The key feature of each of the services reviewed is that information is delivered directly to the end-user. One of the central thrusts of the study is the shift of information retrieval from the intermediary to the end-user. A review of the literature on current awareness demonstrated how this shift has occurred and how alerting systems have evolved. Three external influencing factors have been isolated:

- the advances in information technology and networks that have affected information retrieval and provision;
- the recognition of the importance of information and the changing working patterns of organisations;
- the rise of information products aimed at the end-user.

2. Development of current awareness systems

2.1. Principles of current awareness services (CAS)

Our study began with a review of the main principles of current awareness services. Library and information services in industry developed CAS to help keep individuals aware of literature that affects their subject area as it is published. The quantity of information available means that an effective current awareness service is invaluable to those who depend on inward information.

By establishing a profile for the end-user, the Library and Information Service (LIS) develops an understanding of its client's needs and establishes a relationship in which those needs are more deeply explored and continuously refined. The development of such a service also represents a marketing opportunity for the LIS to demonstrate the full range of value adding services it provides.

Whitehall (Ref 1), Rowley (Ref 2) and Blick (Ref 3) contend that the key features of a successful service are:

(1) detailed knowledge of the client's interest;

(2) appropriate coverage of sources;

(3) timeliness of delivery;

(4) good selectivity techniques so that relevant material is retrieved;

(5) ease of use and access to the information;

(6) cost;

(7) customer interaction and feedback;

(8) presentation of output in a readable manner.

Additional research by Rowley (Ref 4) concluded that the critical success factors for an effective service are that it should:

(1) keep the information user up to date;

(2) save project time;

(3) aid in the creation of new ideas;

(4) save time and money spent on journals;

(5) reduce the paper flow in the organisation.

2.2. The impact of information technology on current awareness services

The impact of information technology (IT) on the development of current awareness services has been extensive and continues to be significant. The development of the information industry has moved hand in hand with the development of information technology. Communications and networking technologies combined with powerful, easy to use personal computers have given the end-user access to vast banks of information. The evolution of electronic information services, and in particular the development of the Internet, has made available a wide range of information sources. Electronic information is not better or superior to printed information, it merely increases and extends access to information sources. However, the ease of redistribution of electronic information introduces the risk of breach of copyright. It is therefore vital that an understanding of the limitations on the legal distribution of material is understood by those who handle it. Developments in electronic publication have led to the electronic storage of information and its rapid retrieval. Data communications is the fastest growing field of telecommunications, allowing considerable amounts of information to be delivered from a remote host to the desktop. Many organisations are now having seriously to consider adapting their information services, and the way in which they operate, to take advantage of the opportunities presented by the Internet. With IT breakthroughs, it should be remembered, 'Human intervention is needed to establish just what an item is about; the job which involved a semantic judgement of a document's "aboutness" could not be left to the computer entirely' (Ref 5). However, online searches 'are not only more productive but also more effective than manual methods' in scanning vast amounts of sources and distributing information quickly (Ref 6).

2.3. Learning organisations

Information is now recognised by organisations as a valuable asset (Ref 7). Organisations are embracing new technology and their employees are using IT applications more frequently and for more tasks. As Paul Waddington (Ref 8) noted, IT is changing our lives and working practices. Advances in telecommunications have changed the way in which businesses operate. The increase in network infrastructures has meant that the virtual organisation is now clearly emerging. Working from home is a reality in many organisations. This has led to the need for a 'virtual library' that can deliver information when, where and in whatever format is required. Today's LIS must be able to deliver services direct to the end-user's desktop. The shift from manual to electronic technology has led to a new breed of information centre. The market for information products, once restricted to the information intermediary, is now finally reaching the end-user. Information providers have always regarded the end-user market as the Holy Grail but are only now breaking into it. The market place is at last being driven by the needs of the end-user. The challenge for producers now is to meet the needs of the end-user because 'for every professional there are 100–1000 non experts' (Ref 9). The barrier to this market in the past has been technology. Now with all of the advances in IT these barriers have been removed — the majority of users will not think twice about obtaining information electronically in the future. Alerting services can be viewed as the next wave in the sea of changing information.

3. KPMG and current awareness

3.1. KPMG

Where does KPMG stand in this picture of new wave information products? KPMG is an international firm of accountants and management consultants serving local and global clients. There is a great need to identify and exploit new business opportunities as they emerge and to anticipate the needs of clients. Partners and staff must be kept abreast of the regulatory developments and business trends that are likely to impact on their clients. For this reason it is essential that everyone in the organisation is kept informed about the financial and business environment, and have access to information sources which are accurate and timely. The Library and

Information Service supports KPMG's 38 UK offices. One of its key responsibilities is choosing information products that equip the organisation with the knowledge to be flexible, creative and innovative. The LIS's strategy focuses on developing services which demonstrate product relevance and cost-effectiveness. The Library Manager needs to anticipate and review the changing information requirements of the organisation and to provide a service that matches these needs. One of these needs is the development of automated alerting services.

3.2. Background to the CAS pilot

The LIS has provided a comprehensive range of services over the last ten years, including circulation of contents pages, manual clipping services and distributing journals. The introduction of electronic information products, particularly Reuters' Textline, meant that a computerised electronic cuttings service could be implemented for regular searches (i.e. Selective Dissemination of Information — SDI). The number of requests for this service has increased each year to such a degree that it took an information specialist two days each week to process the SDIs and distribute them throughout the organisation. There are advantages and disadvantages to an SDI service. the LIS has complete control over the running of the SDI search. Searches can be established, changed or deleted at the information specialist's command. Conversely, maintaining the service requires the continuous processing of information by the information specialist. The demand on LIS's time meant that to extend the service to run on a daily basis was not a viable option without recruiting a full-time dedicated researcher to supply SDI information . For this reason the service could not provide very current information, nor could it cope with the volume of people who wanted to benefit from the service. In short, the system was at breaking point. Automated electronic alerting services allowed the LIS to provide the user with daily information without impinging on the information specialist's time.

3.3. The way ahead for the Current Awareness Pilot

In March 1994 an evaluation of all the existing CAS services in KPMG took place. A questionnaire was distributed to the CAS users to establish their views on the service. The results of the survey highlighted a number of strengths and weaknesses:

Strengths

- tailored to a specific audience;
- information produced being highly relevant to the end-user.

Weaknesses

- insufficient to meet actual demand;
- labour-intensive;
- costly;
- duplication of services occurred through lack of co-ordination between departments.

We concluded that a more coordinated and effective way of alerting people should be established. Three options for future current awareness provision at KPMG were identified: centralise the existing services, introduce a new comprehensive service, or replace manual gathering systems with an automated system.

We decided to carry out a focused review to examine whether the introduction of a fully automated system would reduce the labour-intensive nature of the existing services, permitting redeployment of personnel and the maximisation of resources. We sought to test the hypothesis that an automated service would cope more readily with the growing need for information throughout KPMG.

Our review consisted of three stages:

(1) review questionnaire results to determine how end-users felt about CAS (developing a blueprint for the type of service required);

(2) the selection of individuals and services for the implementation of the pilot;

(3) the distribution of a questionnaire to obtain feedback on the pilot.

We will now consider each of these in turn.

3.3.1. Review questionnaire

The results of the questionnaire established end-users' requirements for CAS provision and allowed us to formulate a strategy to ensure provision of a service that would meet KPMG's current and future information needs. The operating criteria for the system were:

- the service must provide very specific information, directly matching the user's profile;
- the information must be accurate, timely and relevant;
- a maximum of 20–25 headlines should be supplied initially, with the user being able to access the full text of each article immediately;
- the recipient must be able to print and view the information immediately and locally;
- the information provided must be in the public domain and must be news data;

- the systems on offer must take into account copyright restrictions but should allow information to be stored and distributed as necessary;
- text retrieval of archived data should be possible;
- the service must be flexible with the ability to change, add or delete search profiles on a daily basis.

We then assessed the market for electronic CAS, evaluating the systems on the following criteria:

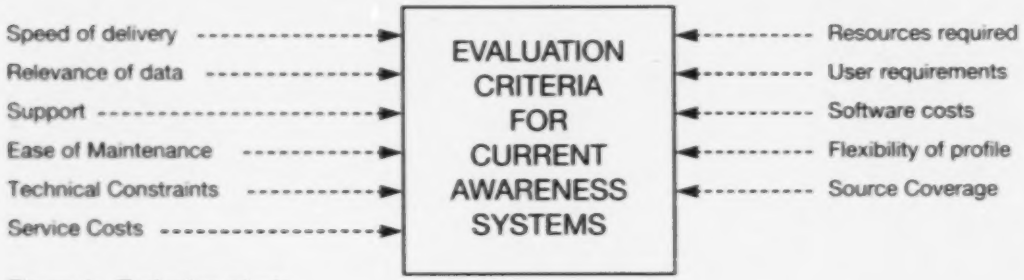

Figure 1: Evaluation criteria.

With these criteria in mind a number of service offerings were assessed to find the most suitable service for the pilot study. Our objective was to find the most relevant and cost effective CAS for KPMG.

3.3.2. Implementation of the CAS pilot

The pilot was divided into two phases. Phase one involved implementing, testing and reviewing the trialed CAS:

- identifying the potential benefits of the service;
- identifying a representative pilot group of users and their requirements for the service;
- implementing a trial of two commercial services (not simultaneously) considered likely to meet the requirements of the users;
- seeking feedback from the users;
- documenting and reviewing the results.

Phase two at the end of the six month trial period consisted of:

- collecting feedback from the pilot users via questionnaires;
- assessing the potential costs and benefits of the services;
- qualifying the technical approach, scalability of the service and its impact on infrastructure;
- documenting the results of the pilot and recommending future actions.

3.3.3. Questionnaire and feedback on the pilot

Although the pilot users had continually fed back their views on the CAS via meetings and questionnaires, at the end of the pilot a comprehensive questionnaire was sent out to users to capture their opinions on automated systems. The questionnaire covered issues such as, what preference does the user have with regard to various service details? what prompts the user to make more frequent use of the service? is the information content paramount? and, does the user need daily information feeds? The information industry seems to be tailoring products for real-time feeds but is the end-user ready for such a change in working habits?

The questionnaires were analysed and the key issues were isolated:

(1) the source coverage of the system was deemed to be the most important criterion for choice, followed by speed of delivery;

(2) flexible output options were essential as some favoured printing, others viewing on screen;

(3) users need to be educated to take responsibility for their information needs and to understand that they will have to take time out of their working day to give feedback to the product suppliers. If there was not much interaction with the suppliers for building and maintaining the profiles, the service proved inadequate;

(4) there was considerable enthusiasm for automated CAS from the end-users but the means of delivery and scope of support for the service were considered to be of great importance. One suggestion was the provision of a helpdesk for any queries that arose;

(5) one hundred percent of the respondents wished to continue receiving an electronic alerting service, although more than half of this number said that commitment to a subscription would be dependent upon cost;

(6) service providers need to gain the user's trust and confidence before their products can be regarded as an essential business tool. One of the respondents commented that they used the service weekly but

would use it daily if they had more confidence in the reliability of the sources, and if they felt that the system was picking up everything of relevance.

4. The delivery platform

Our initial evaluation criteria for CAS services concentrated on scope, content, currency and ease of use. However the results of the trial demonstrated the importance of the delivery mechanism. We needed to consider the following:

- computer network infrastructure;
- compatibility of the software/hardware;
- user training;
- cost.

One of the major issues of automated electronic current awareness services is the trend of shifting responsibility for information retrieval from the library directly to the end-user. This means that the delivery platform is crucial. Which is better, 'push' or 'pull' services? Should the system run in the background and alert the end-user when a message arrives or should the users enter the system at their convenience? If a service is to be implemented successfully, the product front end needs to be intuitive and uninhibiting so that the user is not faced with a barrier to retrieving information. The mechanics of information retrieval must play a minimal role in the user's daily routine, as the end-user is only interested in the 'message' not the 'medium'. A successful delivery platform depends on the delicate balance of many variables. The ideal for CAS provision is that information should be delivered to the right person at the right time, in the right format and for the right price (Ref 10): finding a delivery platform that can offer such a service is no easy task. Information suppliers are constantly trying to improve their delivery mechanisms: they realise that failure to keep abreast of technological developments may result in the downfall of their service. Current Awareness providers are joining forces with information disseminators so the two can provide an efficient service. Today the results of an information search can be delivered by post, fax, modem, e-mail, groupware or the Internet/intranet, or any combination of these. Suppliers need to be able to offer all these delivery mechanisms in styles that can be incorporated into different organisational infrastructures. What may be good for one company may be completely inappropriate for another. For the initial KPMG pilot study Lotus Notes groupware was chosen. At this stage intranets were very much in their infancy and the Internet was seen as posing possible security hazards. Lotus Notes was chosen on the basis that it allowed delivery of articles, e-mail and the construction of databases, and did not pose the security hazards inherent in the Internet. The LIS worked very closely with the IT department. An additional feature of the trial was that it helped establish the value and potential benefits of Lotus Notes to the LIS — an extra benefit from the pilot.

Lotus Notes was considered particularly suitable for CAS delivery. Filtered information is delivered from the external supplier to the organisation's server by replication of databases so that the supplier is able constantly to update the organisation's server. The end-user can then access information held on the Notes server through the Notes Workstation (i.e. the individual's PC). Information management is one of Notes' core strengths. One reason for its success is the structured manner in which information is stored, in documents, forms and views. *Documents* store the information content of a database which can include text, graphics, tables and sound. *Forms* are templates that help to create documents. *Views* are lists of documents stored or categorised in a variety of ways to make it easy to find information. Views are comparable with table of content for the database. The ability to search the CAS database using views allows the user to retrieve information in a variety of ways, for example by date, publisher, source and so on. Smart icons facilitate the manipulation of the screen. An additional feature of the Notes database is that it allows the searching of views by Boolean terms.

Organisations need to determine which infrastructure will best suit their working patterns. After the initial pilot we reviewed alternative delivery platforms to Lotus Notes, in particular the Internet and intranet. The development of World Wide Web technology has added another dimension to information provision, offering a multimedia environment at very low cost on multiple platforms. Intranets for CAS represent a cost effective delivery option which should be considered particularly if Lotus Notes is not already an established application within the organisation. The use of internal Web sites removes the security risks of the Internet. It is apparent that an open system is a more suitable system for CAS delivery than a closed system. KPMG is currently piloting CAS delivery over the Intranet.

5. Results

The results of our pilot study demonstrated that three organisational factors need to be given serious consideration before an alerting service is established:

- IT infrastructure harmonisation;
- the likelihood of users incorporating information retrieval into their working practices;
- the delivery platform.

All of these factors are equally important to the acceptance of the service by the end-user. In addition to these

main criteria, the following issues were identified throughout the pilot study:

- the delivery platform is a major factor in the effective utilisation of the CAS systems. If the system is not intuitive to use, requires a lot of training and support or is very expensive to implement then the CAS will not give the desired results to the organisation. For the first pilot within KPMG Lotus Notes was used as the delivery platform: the second pilot is using the Intranet;
- good contact and communication both externally with the suppliers and internally between departments, particularly the information technology department is essential if a service is to be introduced successfully;
- clear coordination of all information systems is vital if information is to flow effectively throughout the organisation;
- the end-user is key to the successful future of electronic alerting services. If services are to be used to their full potential then the user needs to become more proactive in his or her request to receive relevant information;
- users need to be very clear about what kind of service they require. In busy environments information needs on specific topics change very rapidly (often day-by-day). Users need to be confident that the system is appropriate for their needs;
- the strengths of sources of each system need to be carefully understood before selection;
- the information specialists should coordinate the service to the users, alter profiles, train the users and offer support when needed. When users were asked whether they preferred to use the supplier or the library as primary contact for an alerting service, an overwhelming majority of users replied that they preferred to use the library because they felt that the library had a greater understanding of their information needs;
- the addition of automated alerting services will allow the library to provide information to a greater number of users more frequently, efficiently and effectively.

6. Conclusion

Whilst end-user access to information is still in its infancy, it is rapidly becoming a meaningful and viable option. Alerting services are just one facet of the changes in information provision. Changes and developments in information products will impinge on the way the librarian/information professional operates. As more people become aware of the importance of information, we will see the metamorphosis of information professionals' roles. 'A librarians job used to be building and maintaining a collection of books, now the service has shifted to service provision orientation — user needs orientation' (Ref 11). Royan argues that in the midst of these changes, information professionals have an opportunity to develop new roles:

(1) Evangelist — persuading people to use services;

(2) Gatekeeper — registering the user;

(3) Facilitator — bringing the resources together for the end-user;

(4) Cartographer — documenting the services available and the paths;

(5) Trouble shooter — helping the end-users when they get stuck;

(6) Trainer — showing the end-user how to use the products;

(7) Packager — sorting the interfaces (Ref 12).

LIS staff are faced with exciting opportunities. The end-user need not be a threat. Information professionals have expert knowledge of information systems and valuable, unrivalled experience. There is no reason why the end-user should replace the intermediary — the two can be complementary. The LIS should take the lead in identifying and introducing appropriate new information products. Doing so will ensure that an effective information strategy is developed and implemented so that the needs of the new knowledge workers are met in full.

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